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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,552	12/30/2003	L. William Zahner	34449	9085

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EXAMINER

EDWARDS, PATRICK L

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 08/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/748,552	Applicant(s) ZAHNER ET AL.	
	Examiner Patrick L. Edwards	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-20 is/are allowed.
- 6) ☒ Claim(s) 1-9, 13 and 14 is/are rejected.
- 7) ☒ Claim(s) 10-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. The response received on 07-07-2006 has been placed in the file and was considered by the examiner. An action on the merits follows.

Response to Arguments

2. The arguments filed on 07-07-2006 have been fully considered. A response to these arguments is provided below.

35 USC 112, Second Paragraph Rejections

The previous 112(2) rejections are hereby withdrawn.

Prior Art Rejections

Applicant's arguments have been obviated by the new grounds of rejection that was necessitated by applicant's amendment.

Allowable Subject Matter

3. Claims 15-20 are allowed.

4. Claims 10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-8, 13, 14, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Nayar et al. (US 2005/0134599 A1) and Skaar et al. (USPN 6,304,050).

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Regarding claim 1, Nayar discloses a method of transferring a representation of an image to a surface (Nayar paragraphs [0008] and [0044], for example).

Nayar discloses:

- receiving the image as an image file (see Nayar paragraph [0050] and elsewhere throughout the specification: The reference describes that the image file to be displayed on a surface is stored on a computer. This means that the image is stored as an image file).
- converting the image file to an intermediate file comprising a series of dots that vary according to the image (see Nayar generally: The reference describes that the images to be projected/displayed on a surface are digital (or quantized) images. It appears that this limitation actually does very little to limit the claim. Any image which has been quantized (which is all digital images, for example) is an image that is represented by a series of dots that vary according to the image. Accordingly, any such image could be considered to be the “intermediate file” recited in the claim.).
- manipulating the dots to accommodate features of the surface (see Nayar paragraph [0088], for example: In this passage (and elsewhere), the reference describes compensating an image based on a surface, before that image is projected onto said surface.).

Regarding the final limitation, Nayar discloses converting the intermediate file into a control file operable to be utilized by a machine according to dots in order to transfer a representation to a surface (see Nayar paragraph [0011],[0127]-[0128], for example: The reference describes using a look-up table (i.e. control file) that is used by a machine (i.e. projector and corresponding circuitry) to transfer the markings corresponding to the dots (i.e. the compensated image) to the surface as a representation.).

Nayar, however, does not disclose that the machine physically manipulates the surface according to the dots. Skaar, on the other hand, discloses a robot that physically manipulates a surface in accordance with a digital image (see Skaar col. 3 line 66 – col. 4 line 3, and elsewhere in the specification). It would have been obvious to one reasonably skilled in the art at the time of the invention to modify Nayar’s method of transferring a dot representation to a surface by actually physically manipulating that surface as taught by Skaar. Such a modification would have allowed for a system/method that more aptly portrayed the desired image by means of physical manipulation.

Regarding claim 21, all of the limitations of the claim have been addressed in the above discussion of independent claim 1. Claim 21 simply requires that the method of claim 1 is performed by a computer program. Nayar discloses this (see Fig. 1).

Regarding claim 2, Nayar discloses that the dots are positioned according to a predetermined grid (The reference describes that the projector images are 800x600. This qualifies as a predetermined grid.).

Regarding claim 3 Nayar discloses that the intermediate file is a raster file (Nayar describes that the images are represented by pixels and that each pixel is represented by either RGB values or gray levels

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(depending on whether it is a color or gray-scale image). Thus, the images (which includes the “intermediate file” as discussed above) are represented as a “raster file.” A raster file is defined simply a grid of x-y coordinates that are illuminated (in monochrome or color). A well-known example of a raster file is a bitmap image. The above explanation is the art-accepted definition of a raster file. Applicant has not explicitly defined the term “raster file” and so this art-accepted definition will be used. Pursuant to this definition, Nayar discloses that the “intermediate file” is a raster file.).

Regarding claim 4, Nayar discloses that the dots and the markings vary in size according to the image (See argument above with respect to claim 1. This limitation was discussed therein.).

Regarding claims 5 and 6, Nayar discloses that the markings are positioned according to a predetermined grid, vary in size according to the image, and are selected from the group consisting of indentations, holes, bumps, and blanks according to the image (see Nayar paragraph [0007]-[0008]: This claim recites three limitations, two of which have already been addressed. Regarding the third limitation of markings representing indentations, holes, bumps, or blanks, Nayar discloses this in the cited passage.).

Regarding claims 7 and 22, Nayar discloses scaling the intermediate file to the surface (see Nayar paragraph [0097], for example: Much of the Nayar reference is devoted to describing a compensation algorithm to display an image to a surface. This compensation algorithm is analogous to the “scaling” recited in the claim. Further, it is well known that the method utilized in Nayar’s image compensation—radiometric calibration—involves a scaling operation.).

Regarding claim 8, Nayar discloses that the step of scaling the intermediate file comprises dividing the intermediate file into a plurality of sub-components (see Nayar paragraph [0056]).

Regarding claims 13 and 14, Nayar discloses that features (of the surface) include windows, doors, and edges (Nayar paragraph [0008]).

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Nayar (US 2005/0134599) and Skaar, and further in view of Yokoyama (USPN 5,268,999). The arguments as to the relevance of the aforesaid combination as applied to the parent claims above are incorporated herein.

Nayar discloses breaking an image into sub-components, but fails to expressly disclose that the sub-components correspond to sheets (such as the metal sheets described in the specification). Yokoyama, on the other hand, describes that an image model is composed of individual units (i.e. subcomponents) that represent metal sheets of a physical surface (Yokoyama col. 4 lines 36-64, for example).

It would have been obvious to one reasonably skilled in the art at the time of the invention to modify Nayar’s method of tiling (or providing sub-components of) an image with the use of an image to represent a physical sheet or tile as taught by Yokoyama. Such a modification would have allowed for a way that a description of a physical object (such as a building surface, for instance) could be described with

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image data. This would have allowed for efficient input and modification of the physical representation (Yokoyama col. 2 line 40 – col. 3 line 10).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick L Edwards whose telephone number is (571) 272-7390. The examiner can normally be reached on 8:30am - 5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick L Edwards

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